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Group Art Unit: 3738
Examiner: Robert W. Amareld Jr.
Atty. Docket No.: 101896-207 (DEP5151)

AMENDMENTS TO THE DRAWINGS

The attached Replacement Sheets for FIGS. 1-8 show the omitted reference numbers.

REMARKS

The pending Office Action addresses claims 1-30, rejecting claims 1-30.

Amendments to the Drawings

Applicants have attached Replacement Sheets for FIGS. 1-8 that include the omitted reference numbers. The Examiner indicates that the drawings fail to show every feature of the invention specified in the claims. Applicants respectfully disagree. The ball (17) and detent (19) features are shown in FIG. 5B, and the push button mechanism (34) is shown in FIG. 6.

Amendments to the Claims

Applicants amend independent claims 1 and 30 to include some of the limitations of claims 9 and 11. Applicants also amend claims 1 and 30 to specify that the stop member is adjustable to mate to the elongate shaft at a plurality of predetermined fixed positions. Support for this amendment can be found throughout the specification, for example, at page 11, lines 1-5. Claim 9 is canceled, and claim 10 is amended to depend from independent claim 1 rather than canceled claim 9. Claim 11 is amended to omit the limitations added to independent claim 1. Applicants also amend independent claim 15 to include the limitations of claim 16, which is canceled. Claim 26 is amended to properly depend from claim 23. No new matter is added.

Rejection Pursuant to 35 U.S.C. §112

The Examiner rejects claim 26 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants amend claim 26 to properly depend from claim 23.

Rejection Pursuant to 35 U.S.C. §102

U.S. Patent 3,540,322 to Swanson

The Examiner rejects claims 1-7, 9-11, 13, and 30 pursuant to 35 U.S.C. §102(b) as being anticipated by U.S. Patent 3,540,322 to Swanson ("Swanson"). Applicants respectfully disagree.

Independent claims 1 and 30, as amended, similarly recite a surgical drill assembly of a guide tool having an elongate shaft, an elongate, hollow sleeve slidably disposed around at least a portion of the elongate shaft, and a stop member disposed around a proximal portion of the elongate shaft. The stop member is adjustable to mate to the elongate shaft at a plurality of predetermined fixed positions along a length of the elongate shaft, and it is effective to abut the hollow sleeve to limit penetration of the distal end of the elongate shaft into bone.

Swanson does not teach or even suggest a stop member that is adjustable to mate to a shaft at a plurality of predetermined fixed positions along a length of the shaft, and that is effective to abut a hollow sleeve to limit penetration of a distal end of the shaft into bone, as required by independent claims 1 and 30. As shown in Figure 2, Swanson discloses a hand drill (6) positioned in a stationary collar (7) such that the shank (4) of the drill extends through a body (11). The Examiner asserts that both the body (11) and collar (17) act as stop members to limit penetration of the drill. However, neither of these features are adjustable such that they can mate to the shaft at a plurality of predetermined fixed positions along a length of the shaft, nor are they effective to abut a hollow sleeve to limit penetration of a distal end of the shaft, as required by claims 1 and 30. The body (11) and collar (17) cannot act as stop members effective to abut a hollow sleeve because they themselves form a hollow sleeve. Moreover, the body and collar are not disposed around a proximal portion of a shaft, as required by claims 1 and 30. The only feature disposed on the proximal end of the shaft is a chuck (5), however the chuck is merely mated to the proximal most end of the shaft and it is not adjustable between a plurality of predetermined fixed positions, as required by claims 1 and 30. Accordingly, independent claims 1 and 30, as well as claims 2-14 which depend directly or indirectly therefrom, distinguish over Swanson and represent allowable subject matter.

DE 3800482 to Heinz-Jurgen

The Examiner rejects claims 1, 7, and 8 pursuant to 35 U.S.C. §102(b) as being anticipated by DE 3800482 to Heinz-Jurgen ("Heinz-Jurgen"). Claim 1 is amended to include some of the limitations of claims 9 and 11, thereby obviating the basis for this rejection.

U.S. Patent 4,710,075 to Davison

The Examiner rejects claims 1 and 9-14 pursuant to 35 U.S.C. §102(b) as being anticipated by U.S. Patent 4,710,075 to Davison ("Davison"). Applicants respectfully disagree.

As explained above, independent claim 1, as amended, recites a surgical drill assembly having an elongate shaft, an elongate, hollow sleeve slidably disposed around at least a portion of the elongate shaft, and a stop member disposed around a proximal portion of the elongate. Davison fails to teach or suggest a surgical drill assembly having both a hollow sleeve and a stop member, as required by independent claim 1. Davison merely teaches a drill bit (2) having an adjustable stop collar (26) disposed there over. The device does not include both a stop collar and a hollow sleeve, as required by claim 1. Accordingly, independent claim 1, as well as dependent claims 9-14 which depend directly or indirectly therefrom, distinguish over Davison and represent allowable subject matter.

U.S. Patent 5,669,915 to Caspar

The Examiner rejects claims 1, 9-11, 13, 15, 21-23, 25, and 27-30 pursuant to 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,669,915 to Caspar et al. ("Caspar"). Applicants respectfully disagree.

As explained above, independent claims 1 and 30, require a stop member that is adjustable to mate to an elongate shaft at a plurality of predetermined fixed positions along a length of the shaft, and that is effective to abut a hollow sleeve to limit penetration of the distal end of the shaft into bone. Caspar fails to teach or suggest such a stop member. Caspar discloses a drilling jig that includes a threadably adjustable sleeve (2) that is adapted to receive a drilling tool (12) and to limit a drilling depth of the tool. The proximal end of the sleeve (2) includes a disk-shaped grip part (19) with an end surface (30) formed thereon. The Examiner argues that the grip part (19) serves as a stop member. However, the grip part (19) does not mate to the drilling tool, but rather it is mated to the adjustable sleeve (2). Thus, the grip part is not adjustable to mate to the shaft at a plurality of predetermined fixed positions, as required by claims 1 and 30. Accordingly, independent claims 1 and 30, as well as dependent claims 2-14 which depend directly or indirectly therefrom, distinguish

over Caspar and represent allowable subject matter.

Independent claim 15 is amended to include the limitations of claim 16, thereby obviating the basis for this rejection. Accordingly, independent claim 15, as well as dependent claims 17-29 which depend directly or indirectly therefrom, distinguish over Caspar and represent allowable subject matter.

Rejection Pursuant to 35 U.S.C. §103

Caspar and Swanson

The Examiner rejects claims 16-20 pursuant to 35 U.S.C. §103(a) as being obvious over Caspar in view of Swanson. The Examiner argues that Caspar teaches the claimed invention except for biasing the elongate shaft with respect to the elongate, hollow sleeve. The Examiner relies on Swanson to teach biasing, arguing that it would have been obvious to modify the device of Caspar in view of Swanson to arrive at the claimed invention. Applicants respectfully disagree.

A person having ordinary skill in the art would have no motivation to combine the references. As explained above, Swanson discloses a biased drill fixture that is adapted to automatically lift the drill clear of the work once the hole is complete. In contrast, Caspar discloses a drilling jig that includes a threadably adjustable sleeve that is adapted to receive a drilling tool and to limit a drilling depth of the tool. The Examiner asserts that it would have been obvious to combine the biasing feature of Swanson with the device of Caspar. However, neither reference teaches nor suggests that an automatic lift feature would be desirable when drilling bone. Caspar is directed towards conventional drilling applications where the drill bit often becomes embedded or stuck in the material (e.g., wood or metal). Thus, it is desirable to have an automatic lift feature to lift the drill clear of the material once the hole is complete. Alternatively, Caspar is directed towards surgical drilling applications where the material being drilled is bone. Contrary to the conventional application described by Swanson, the embedded drill bit problem does not occur in the surgical application disclosed in Caspar. Thus, there is no motivation to combine the automatic lift feature of Swanson with the device of Caspar.

Moreover, combining the references is contrary to the teachings of Caspar. Combining the biasing feature of Swanson with the device of Caspar would require taking the entire body (11) of Swanson and placing it within the through-bore (28) in the adjusting part (7) of Caspar. Caspar explains that in order to precisely guide the drilling tool (12), the internal diameter of the through-bore (28) is sized such that it is only slightly larger than the external diameter of the drilling tool (12). (Caspar column 4, lines 26-30). Combining Swanson and Caspar would require increasing the internal diameter of the through-bore (28) to a size significantly larger than the external diameter of the drilling tool (12) in order to house the biasing spring (19) of Swanson. Increasing the internal diameter of the through-bore (28) will increase the amount play between the drilling tool (12) and the adjusting part (7) thereby reducing the precision of the instrument. Thus, combining the references is contrary to the teachings of Caspar because adding the biasing feature actually reduces the accuracy of the drill. Accordingly, one skilled in the art would have no motivation to combine the references.

The Examiner's obviousness rejection can only be the product of impermissible hindsight. An Examiner may only establish a prima facie case of obviousness when "the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993). In asserting that the prior art "suggested" the claimed subject matter, however, an Examiner must realize that "the mere fact that the prior art may be modified in the manner proposed by the Examiner neither makes the modification prima facie obvious nor obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Applicants were motivated by problems discovered, and which were not recognized by Swanson or Caspar to develop a unique surgical drill assembly. The Examiner's picking and choosing of features out of context from two different references in an attempt to construct a prima facie obviousness rejection boils down to an impermissible hindsight reconstruction of Applicants' invention.

Accordingly, independent claim 15, as well as claims 17-29 which depend directly or indirectly therefrom, are not obvious over Caspar and Swanson, and therefore represent allowable subject matter.

Caspar and Davison

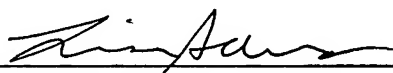
The Examiner rejects claims 21-26 pursuant to 35 U.S.C. §103(a) as being obvious over Caspar in view of Davison. Claims 21-26 depend from independent claim 15 which is amended to include the limitations of claim 16, thereby obviating the basis for this rejection. Accordingly, independent claim 15, as well as claims 17-29 which depend directly or indirectly therefrom, distinguish over Caspar and Davison, taken alone or combined, and represent allowable subject matter.

Conclusion

In conclusion, Applicants submit that claims 1-30 are now in condition for allowance, and allowance thereof is respectfully requested. The Examiner is encouraged to telephone the undersigned attorney for Applicants if such communication is deemed to expedite prosecution of this application.

Respectfully submitted,

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